

The Relationship of Knowledge and the Use Of Personal Protective Equipment Among Farmer Users of Pesticides in Waru Village, Slogohimo District

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Abstract

Agriculture is one sector that has a big role in meeting people's food needs. One strategy used by farmers to increase food yields is to use pesticides to prevent pest attacks. However, in their use, farmers tend to pay less attention to the use of personal protective equipment to prevent the dangers of using pesticides. This research aims to determine the relationship between knowledge and the use of personal protective equipment among pesticide-using farmers in Waru Village, Slogohimo District. This research is quantitative with an observational descriptive design with a cross sectional approach. This research was conducted from September to November 2023. The research was carried out in Waru Village, Slogohimo District. The population in this study was 390. The research sample was 80 respondents. The sampling technique was carried out using a proportional sampling technique with inclusion and exclusion criteria determined by the researcher. Data collection was carried out using questionnaires and observation sheets. Data analysis uses descriptive univariate analysis, and bivariate analysis uses the chi-square test. The results of the research show that there is a significant relationship between knowledge and the use of personal protective equipment among pesticide-using farmers in Waru Village, Slogohimo District (p-value=0.045 <0.05); (OR=2,856; 95% CI = 1,126-7,240). Farmers with good knowledge about personal protective equipment have a 2.856 times chance of using complete personal protective equipment compared to respondents with low knowledge. It is hoped that community health centres and community health centres can educate farmers to increase their knowledge regarding using personal protective equipment to improve farmers' behaviour in using personal protective equipment when working.

Keywords: Farmers, Knowledge, Occupational health safety, Pesticides, Personal protective equipment

INTRODUCTION

Agriculture is an important sector in meeting society's needs. This is because Indonesia is an agricultural country where most of the population lives in agriculture (Dahiri, 2022). The agricultural sector is important because it is a large food producer for a population increasing yearly. The increasing demand for food has made farmers develop strategies to increase their production, including using pesticides to reduce pests on their crops (Minnikanti et al., 2019).

Pesticides are all chemicals, other materials, microorganisms, and viruses used to eradicate and prevent pests and diseases that damage plants. Pesticides are also defined as substances or chemical compounds that can regulate and stimulate plant growth, and other ingredients contained in pesticides can be used to protect plants from pests in the form of

animals, plants and other pest microorganisms. Using pesticides can reduce agricultural management costs, making it more practical, efficient, and economical (Wright et al., 2019).

Farmers are one of the largest working groups in Indonesia whose health and safety must be considered. However, pesticide use has large negative impacts, such as health problems and environmental pollution (Indrianti et al., 2021). Pesticides can enter the body in various ways, such as through the skin, respiratory tract and digestive tract. Poisoning is one of the impacts caused by the excessive use of pesticides (Tutu et al., 2022).

The World Health Organization (WHO) states that around 1-5 cases of pesticide poisoning occur yearly in agricultural workers. Nearly 80% of pesticide poisoning cases occur in farmers in developing countries. The effects of this poisoning are quite fatal, such as cancer, disability, infertility and liver problems (WHO, 2020).

In Indonesia, pesticides and chemical fertilizers have become a serious threat, especially among farmers, especially in the health sector. Based on the annual report of the Pusdatin, food and Drug Supervisory Agency of the Republic of Indonesia, in 2019, 334 cases of pesticide poisoning were recorded with agricultural pesticides causing 147 cases (BPOM RI, 2020).

This is a concern for public health workers, who must protect the safety and health of farmers so that they can continue to produce food safely and healthily. When farmers use pesticides, they need personal protective equipment to protect and work safety for farmers (Ndayambaje et al., 2019). Personal protective equipment aims to reduce serious risk if workers are exposed to various types of hazards in the workplace. Even though it is the final level of prevention, using personal protective equipment is highly recommended for workers (Pesik et al., 2022).

According to Danisa et al., (2022), farmers who use pesticides tend to take the dangers of using pesticides for granted, so they do not pay attention to the safety and security requirements. The poisoning caused by the use of pesticides is often unnoticeable. Hence, farmers feel that pesticides do not cause the disturbance they are experiencing, so they continue to use pesticides as they normally do without paying attention to safety (Rinchen et al., 2019).

The factor that causes farmers to refrain from using personal protective equipment is that they still need to gain more knowledge regarding using personal protective equipment as a measure of work safety and security (Staudacher et al., 2020). Over the last 5 years, research has been related to knowledge regarding using personal protective equipment among pesticide farmers. However, there are still differences in previous research results. Gustina (2019) stated that there was a relationship between knowledge of the use of personal protective equipment

for spraying pesticides among oil palm farmers at PT. Citra Mulia Perkasa in Lampasio District, Toli-Toli Regency.

This is in line with research by Danisa (2022), which states that there is a relationship between the level of knowledge and the behaviour of using personal protective equipment when spraying pesticides. However, this opinion is not in line with research by Hayati (2018), which states that there is no relationship between knowledge and the use of personal protective equipment among pesticide-using farmers in Candi Laras Village.

Based on the results of a preliminary survey of 10 farmers, it is known that in the Waru Village area, the majority do not use personal protective equipment such as masks and gloves when using spray pesticides. Some farmers only use personal protective equipment in the form of boots. Based on the results of interviews, farmers do not use personal protective equipment such as masks when using pesticides because they feel uncomfortable breathing. Apart from that, they do not use personal protective equipment because farmers think they feel safe without using personal protective equipment when working. This has become a habit for them to farm without using personal protective equipment.

Based on the description above, researchers are interested in researching the relationship between knowledge and personal protective equipment among farmers who use pesticides in Waru Village, Slogohimo District.

METHODS

This research uses a quantitative research type, descriptive observational research design with a cross-sectional approach. This research was designed to determine the relationship between knowledge and the use of personal protective equipment among pesticide-using farmers in Waru Village, Slogohimo District.

This research was conducted in September-November 2023. The research was carried out in Waru Village, Slogohimo District. The population in this study were 390 farmers who used pesticides in Waru Village, Slogohimo District. Determining the sample size was carried out using the Lameshow formula, 80 respondents were obtained as research samples with inclusion criteria, including residents who live permanently in Waru Village and work as farmers who use spray pesticides. Researchers also determined the exclusion criteria in this study: farmers who could not communicate fluently.

The sampling technique used is the proportional sampling technique, where samples are taken randomly according to each hamlet to obtain the required number of samples. The

questionnaire used in this research has been tested for validity and reliability and declared valid and reliable.

Research instruments tested for validity are considered valid if the calculated r results are greater than the r table of 0.361. Based on the results of the validity test that was carried out, 18 valid question items were obtained. The reliability test results on the questionnaire used show a Cronbach's Alpha value = 0.771 > 0.60, so it can be concluded that the questionnaire that has gone through a validity test is declared valid, has gone through the reliability test stage, and is declared reliable.

Data analysis in this study used descriptive univariate analysis and bivariate analysis using the Chi-square test to see the association between the dependent and independent variables. Data analysis for this research uses computer software like Statistical Program for Social Science (SPSS) software version 23. This research has received ethical approval from the Health Research Ethics Committee Team, Faculty of Health Sciences, Muhammadiyah University of Surakarta with Number 021/KEPK-FIK/IX/ 2023.

RESULTS

The characteristics of respondents in this study include age, gender, education, and length of time working as a farmer:

Table 1 Characteristics of Respondents (n=80)

Respondent Characteristics	frequency	%
Age		
Adult (20 – 45 years)	40	50
Early Elderly (46 – 65 years)	38	47.5
Late Elderly (≥ 66 years)	2	2.5
Mean ± Standard Deviation		47.59 ± 6.546
Middle value (min : max)		45.50 (38:71)
Gender		
Man	50	62.5
Woman	30	37.5
Education		
Elementary school	41	51.3
Junior high school	29	36.2
Senior High School	10	12.5
Long Farming		
< 15 years	19	23.8
≥ 15 years	61	76.3

Based on Table 1, it is known that the respondents in this study were 80 people. The majority of respondents entered the adult age phase, namely 20-45 years, 40 people (50%), with the youngest respondent's age being 38 years and the oldest respondent's age being 71 years. The average respondent was 47.59 years old. Most respondents were male, namely 50 people (62.5%). Most respondents had elementary school or equivalent education, 41 people

(51.3%). Most respondents have worked as farmers for over 15 years, namely 61 farmers (76.3%).

Table 2 Description of Research Variables (n=80)

Variable	frequency	%
Knowledge		
Not enough	49	61.3
Good	31	38.8
Mean ± Standard Deviation		11.94 ± 2.258
Middle value (min : max)		12 (7 : 17)
Use of personal protective equipment		
Incomplete		
Complete	46	57.5
Mean ± Standard Deviation	34	42.5
Middle value (min : max)		3.16 ± 1.277
		3 (1 : 6)

Table 2 states that most of the respondents needed more knowledge regarding the use of personal protective equipment, 49 people (61.3%). On average, respondents scored 11.94 from the 18 questions in the completed questionnaire. The highest score obtained was 17, and the lowest score obtained by respondents was 7. Most respondents did not wear complete personal protective equipment such as long-sleeved shirts, long trousers, mouth and nose covers, gloves, hats and shoes, 46 people (57.5 %).

Table 3. Relationship with the use of personal protective equipment among farmers who use pesticides in Waru Village, Slogohimo District (n=80)

Variable	Use of Personal Protective Equipment among Farmers Using Pesticides				Total		*p-value*	OR (95%CI)
	Incomplete		Complete					
	n	%	n	%	n	%		
Knowledge								
Not enough	33	67,3	16	32,7	49	100	0,045	2,856 (1,126-7,240)
Good	13	41,9	18	58,1	31	100		

Based on the results of the bivariate analysis in Table 3, it is known that the p-value is 0.045 (<0.05), meaning that there is a relationship between knowledge and the use of personal protective equipment among pesticide-using farmers in Waru Village, Slogohimo District with the Odds Ratio (OR) value = 2.856 (95% CI= 1.126 – 7.240), meaning that respondents with good knowledge of personal protective equipment have a 2.856 times chance of wearing complete personal protective equipment compared to respondents with low knowledge. The higher the respondents' knowledge, the higher the behaviour of using complete personal protective equipment among farmers who use pesticides, and the less the respondents' knowledge regarding personal protective equipment, the more incomplete the personal protective equipment they use.

DISCUSSION

Relationship between Knowledge and Use of Personal Protective Equipment among Farmers Using Pesticides

Knowledge results from knowledge obtained through sensing based on a particular object. Knowledge is one of the important things that influence a person's behaviour. Behaviour carried out based on knowledge will be more lasting than behaviour carried out without being based on knowledge (Notoatmodjo, 2014).

Personal protective equipment is equipment used to protect workers from injury or disease caused by contact with workplace hazards, whether chemical, biological, radiation, physical, electrical, mechanical, or others. Personal protective equipment is one form of effort to overcome work-related risks. In the world of work, personal protective equipment is very necessary, especially in work environments with potential dangers to work health and safety (Danisa et al., 2022).

The results of research conducted on farmers who use pesticides in Waru Village, Slogohimo District, show that p-value = 0.045 < 0.05, which means there is a relationship between knowledge and the use of personal protective equipment among farmers who use pesticides in Waru Village, District Slogohimo.

The results of this study align with research Noviyanti et al., (2021) which states that there is a significant influence on the knowledge and attitudes of spray pesticide farmers before and after on the use of personal protective equipment (p-value=0.000). Farmers are expected to increase their knowledge and awareness of the importance of using complete personal protective equipment when working with pesticides for the safety and health of farmers (Hayat et al., 2023).

Also in line with research Gustina et al., (2019) stated that there is a relationship between knowledge and health problems among farmers who use pesticides (p-value=0.008). Farmers with insufficient knowledge of pesticide users who use incomplete PPE are 6 times more likely to experience health problems.

The research results showed that 33 respondents had more or less knowledge about using incomplete personal protective equipment (67.3%). Based on the results of filling in the observation sheet, most respondents only used 3 types of personal protective equipment, namely, long-sleeved shirts, long trousers and hats. The personal protective equipment most often not used by respondents is covering the nose and mouth. This has a huge impact on farmers' health when spraying pesticides. Particles from dangerous pesticide substances can more easily enter the body through the nose or mouth, which are not protected by covering the nose and mouth with a mask (Isroj, 2021). Respondents stated that using personal protective

equipment was not to avoid the dangers or risks of using pesticides but to avoid the hot sun in rice fields.

Meanwhile, 18 respondents with good knowledge regarding personal protective equipment used complete personal protective equipment (58.1%). The complete personal protective equipment used by farmers included long-sleeved shirts, long trousers, nose and mouth covers, gloves, and boots. , and hat. Respondents who use complete personal protective equipment tend to have high knowledge regarding the use of personal protective equipment.

The results of this study are in line with research Hasanah et al., (2022) shows that there is a relationship between knowledge and the behaviour of using personal protective equipment among pesticide spraying farmers at the Paal Merah II Health Center Occupational Health Business post in 2020 with a p-value of 0.00 (< 0.05). In line with research, Akbar (2022) revealed that there was a relationship between knowledge and farmer behaviour in using personal protective equipment (p-value 0.001 < 0.05).

This research is also in line with research by Setyowati (2023), which states that there is a significant relationship between knowledge and the use of personal protective equipment among pesticide-spraying farmers. However, this research is not in line with research conducted by Hayati et al., (2018), which shows a p-value of 0.194 (> 0.05), meaning there is no relationship between knowledge and the use of personal protective equipment among farmers who use pesticides in Candi Laras Village.

This research aligns with the theory that states that health-related knowledge includes things a person knows about how to maintain health. With knowledge of how to maintain health, a person will also get information on how to avoid accidents, be they household accidents, traffic accidents, work accidents, and other accidents (Saragih, 2023).

Knowledge regarding the use of personal protective equipment is one of the important things that all workers must understand to be protected from the dangers of work-related accidents. The behaviour of workers who often ignore recommendations to wear personal protective equipment will indirectly increase the risk of health problems for workers and work accidents. Therefore, workers, including farmers, must have sufficient knowledge regarding using personal protective equipment to minimize work accident incidents (Azzahri et al., 2019).

The low level of knowledge of farmers regarding the importance of using personal protective equipment when working is caused by several things, such as, low level of education, minimal sources of information available regarding the purpose of using personal protective equipment, how and what risks can arise if farmers do not use personal protective equipment when working. There still needs to be educational programs for farmers, and farmers' habits

are difficult to change because building new habits is not easy, especially if the person has old habits that tend to be the opposite (Jannah et al., 2020).

Farmers perceive that pesticides do not have a fatal impact on health. Farmers think that pesticides only pose a mild risk to farmers. All types of pesticides pose quite a big danger to health. The impact caused by the use of unsafe pesticides is poisoning, both direct poisoning and long-term poisoning. Direct poisoning is the effect of pesticide poisoning that occurs directly at that time.

Meanwhile, long-term poisoning is the effect of poisoning that appears over a long period, perhaps months or even years. These long-term effects are often not realized by farmers. When the effects of poisoning appear, farmers associate it with other things. The effects of pesticide poisoning that farmers often experience are: dizziness, headaches, nausea, scabies, vomiting, chest pain, cramps, difficulty breathing, blurred vision, diarrhoea, excessive sweating, and even death (Siahaan, 2020).

According to researchers' assumptions, knowledge regarding personal protective equipment is one of the things that can increase the behaviour of using personal protective equipment among farmers. Better farmers' knowledge regarding the use of personal protective equipment is expected to increase further the good perception of using personal protective equipment, create the intention to use personal protective equipment when working, then increase the behaviour of using complete personal protective equipment among farmers who use pesticides so that they can minimize the risks posed. from pesticide use. To increase farmers' knowledge of the importance of personal protective equipment, the village can collaborate with the community health centre to provide routine guidance. This can be done when there is a farmer gathering event, which can be used to provide education to farmers to increase farmers' knowledge regarding the use of equipment self-protection.

CONCLUSIONS

Based on the research results, there is a relationship between knowledge and the use of personal protective equipment among pesticide-using farmers in Waru Village, Slogohimo District. Farmers with good knowledge of personal protective equipment are more likely to use more complete personal protective equipment than those with less knowledge of personal

protective equipment. Therefore, it is necessary to educate farmers to increase their knowledge regarding the importance of using personal protective equipment to protect health and safety from pesticides and other dangers while working.

REFERENCE

Akbar, H., Eko Budi Santoso, Andi Asliana Sainal, A. Suyatni Musrah, Matius Paundanan, Eko Maulana Syaputra, & Masni. (2022). Hubungan Perilaku Penggunaan APD Dengan Kecelakaan Kerja Pada Petani di Kota Kotamobagu. *Gema Wiralodra*, *13*(2), 540–551. https://doi.org/10.31943/gemawiralodra.v13i2.255

Azzahri, L. M., & Ikhwan, K. (2019). Hubungan Pengetahuan Tentang Penggunaan Alat Pelindung Diri (APD) dengan Kepatuhan Penggunaan APD pada Perawat di Puskesmas Kuok. *Jurnal Kesehatan Masyarakat*, *3*(1), 50–57. https://doi.org/10.31004/prepotif.v3i1.442

BPOM RI. (2020). *Laporan Tahunan Pusat Data dan Informasi Obat dan Makanan Tahun 2019*. Jakarta: Badan Pengawas Obat dan Makanan Republik Indonesia.

Dahiri. (2022). Disparitas dan upaya meningkatkan kesejahteraan petani. *Jurnal Budget Pusat Kajian Anggaran*, *7*, 298–317.

Danisa, S. A., & Saiful, A. (2022). Hubungan Pengetahuan Dan Sikap Dengan Pemakaian Alat Pelindung Diri Penyemprotan Pestisida Pada Petani Kelapa Sawit PT. Citra Mulia Perkasa Di Kecamatan Lampasio Kabupaten Toli-Toli. *Jurnal Ilmiah Kesmas IJ*, *22*(1), 56–62.

Gustina, M., Rahmawati, U., . M., & Zolendo, N. S. (2019). Hubungan Tingkat Pengetahuan Dan Penggunaan Alat Pelindung Diri (Apd) Dengan Kejadian Gangguan Kesehatan Pada Petani Pengguna Pestisida Di Desa Simpang Pino Kecamatan Ulu Manna Tahun 2018. *Journal of Nursing and Public Health*, *7*(1), 25–29. https://doi.org/10.37676/jnph.v7i1.758

Gustina, M., Rahmawati, U., Mualim, & Zolendo, N. S. (2019). Hubungan Tingkat Pengetahuan Dan Penggunaan Alat Pelindung Diri (Apd) Dengan Kejadian Gangguan Kesehatan Pada Petani Pengguna Pestisida Di Desa Simpang Pino Kecamatan Ulu Manna Tahun 2018. *Journal of Nursing and Public Health*, *7*(1), 25–29. https://doi.org/10.37676/jnph.v7i1.758

Hasanah, N., Entianopa, & Listiawaty, R. (2022). Faktor Yang Berhubungan Dengan Perilaku Penggunaan Alat Pelindung Diri (APD) Pada Petani Penyemprot Pestisida di Puskesmas Paal Merah II. *Jurnal Inovasi Penelitian*, *2*(9), 3039–3046. https://doi.org/10.47492/jip.v2i9.1272

Hayat, A. M. F., Nurazizah, W., Rahman, S. F., & Sunu, B. (2023). Hubungan Pengetahuan dan Sikap Petani dengan Pemakaian Alat Pelindung Diri (APD) Saat Penyemprotan Pestisida. *PREPOTIF Jurnal Kesehatan Masyaraka*, *7*(3), 16278–16285. https://doi.org/10.31004/prepotif.v7i3.20287

Hayati, R., Kasman, K., & Jannah, R. (2018). Faktor-Faktor yang Berhubungan Dengan Penggunaan Alat Pelindung Diri Pada Petani Pengguna Pestisida. *PROMOTIF: Jurnal Kesehatan Masyarakat*, *8*(1), 11–17. https://doi.org/10.31934/promotif.v8i1.225

Indrianti, K., Susanto, B. H., Yohanan, A., Widyagama, S., Malang, H., Hari, B., & Stikeswidyagama, S. (2021). Hubungan Antara Perilaku Petani Dalam Penggunaan Pestisida Organofosfat Dengan Kadar Kolinesterase. *Media Husada Journal of Environmental Health Science*, *1*(1), 66–73.

Isroj, F. N. (2021). *Hubungan antara Pengetahuan Penggunaan Pestisida dengan Kedisiplinan*

Pemakaian APD pada Petani Padi di Desa Jagalan Kecamatan Karangnongko Kabupaten Klaten. Universitas Muhammadiyah Surakarta.

Jannah, M., & Handari, S. R. T. (2020). Hubungan Antara Karakteristik,Kenyamanan, dan Dukungan Sosial dengan Perilaku Penggunaan Alat Pelindung Diri (APD) pada Petani Pengguna Pestisida Di Desa “X” Tahun 2018. *Environmental Occupational Health and Safety Journal*, *1*(1), 17–28.

Minnikanti, S. S. V., G, R. D., R, R., Ann, S. M., Eswaran, M., & Mudigubba, K. M. (2019). Knowledge and Perception of Farmers Regarding Pesticide Usage in a RUral Farming Village, Southern India. *Indian Journal of Occupational & Environmental Medicine*, *23*(1), 32–36. https://doi.org/10.4103/ijoem.IJOEM_121_18

Ndayambaje, B., Amuguni, H., Coffin-Schmitt, J., Sibo, N., Ntawubizi, M., & Vanwormer, E. (2019). Pesticide application practices and knowledge among small-scale local rice growers and communities in rwanda: A cross-sectional study. *International Journal of Environmental Research and Public Health*, *16*(23), 2–11. https://doi.org/10.3390/ijerph16234770

Notoatmodjo, S. (2014). *Promosi Kesehatan dan Perilaku Kesehatan*. Jakarta : Rineka Cipta.

Noviyanti, & Pramawati, A. (2021). Pengetahuan dan Sikap Petani Semprot Pestisida Terhadap Penggunaan Alat Pelindung Diri. *Jurnal Ilmiah Permas: Jurnal Ilmiah STIKES Kendal*, *11*(1), 59–68. https://doi.org/10.32583/pskm.v11i1.1037

Pesik, E. O., Kawatu, P. A. T., & Asrifuddin, A. (2022). Hubungan Pengetahuan dan Sikap dengan Tindakan Penggunaan Alat Pelindung Diri pada Petani Pengguna Pestisida di Desa Tember Kecamatan Tompaso. *Jurnal KESMAS*, *11*(4), 123–128.

Rinchen, S., Tenzin, T. T., Hall, D., Van Der Meer, F., Sharma, B., Dukpa, K., & Cork, S. (2019). A community-based knowledge, attitude, and practice survey on rabies among cattle owners in selected areas of Bhutan. *PLoS Neglected Tropical Diseases*, *13*(4), 1–17. https://doi.org/10.1371/journal.pntd.0007305

Saragih, T. N. (2023). *Pemakaian APD dalam Penggunaan Pestisida : Faktor yang Mempengaruhi Kesehatan Petani*. *1*(1), 122–129.

Setyowati, R. D., Widyastutik, O., & Selviana. (2023). Determinan Penggunaan APD Pada Petani Penyemprot Pestisida Di Desa Ambawang Kuala. *Jurnal Mahasiswa Dan Peneliti Kesehatan*, *10*(01), 1–10.

Siahaan, S. (2020). Faktor Yang Berhubungan dengan Kejadian Keracunan Pestisida Pada Petani Sayur dan Palawija di Desa Selat Kecamatan Pemayung Kabupaten Batang Hari Tahun 2018. *Jurnal Ilmiah Universitas Batanghari Jambi*, *20*(3), 1079. https://doi.org/10.33087/jiubj.v20i3.1099

Staudacher, P., Fuhrimann, S., Farnham, A., Mora, A. M., Atuhaire, A., Niwagaba, C., Stamm, C., Eggen, R. I. L., & Winkler, M. S. (2020). Comparative Analysis of Pesticide Use Determinants Among Smallholder Farmers From Costa Rica and Uganda. *Environmental Health Insights*, *14*, 1–15. https://doi.org/10.1177/1178630220972417

Tutu, C. G., Sarman, S., Akbar, H., Mamonto, F., & Gunadarma, I. W. B. (2022). Pentingnya Penggunaan Alat Pelindung Diri Bagi Kesehatan Petani Di Desa Lobong. *DEVOTE: Jurnal Pengabdian Masyarakat Global*, *1*(2), 126–136. https://doi.org/10.55681/devote.v1i2.376

WHO. (2020). *Control Technology for the Formulation and Packing of Pesticides*. WHO libraray Cataloguing-in-Publication Data.

Wright, T., Adhikari, A., Yin, J., Vogel, R., Smallwood, S., & Shah, G. (2019). Issue of compliance with use of personal protective equipment among wastewater workers across the southeast region of the United States. *International Journal of Environmental Research and Public Health*, *16*(11), 1–18. https://doi.org/10.3390/ijerph16112009